

**TESIS**

**PERUBAHAN KADAR GLUKOSA PLASMA NaF DAN SERUM  
YANG DISIMPAN ANTARA SUHU RUANGAN  
DAN SUHU 2° - 8°C**



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# PERUBAHAN KADAR GLUKOSA PLASMA NaF DAN SERUM YANG DISIMPAN ANTARA SUHU RUANGAN DAN SUHU 2° - 8°C

## ABSTRAK

**Latar Belakang:** Pemeriksaan glukosa sering terlambat dilakukan karena keterbatasan jumlah tenaga laboratorium dan reagen serta permintaan pemeriksaan yang banyak. Hasil pemeriksaan glukosa sering tidak sesuai dengan keadaan klinis pasien, salah satu penyebabnya adalah keterlambatan pemeriksaan. Pendinginan sampel direkomendasikan untuk menjaga kadar glukosa atau mengurangi glikolisis. Tujuan penelitian ini adalah mengetahui perubahan kadar glukosa darah plasma NaF dan serum yang disimpan pada suhu ruangan dan 2° - 8°C.

**Metode :** Penelitian ini adalah suatu penelitian analitik dengan rancangan potong lintang terhadap 37 relawan yang memenuhi kriteria inklusi dan eksklusi yang dilakukan di Laboratorium Sentral RSUP.Dr.M. Djamil Padang mulai bulan Oktober 2018 sampai bulan Oktober 2019. Pemeriksaan kadar glukosa plasma NaF dan serum dilakukan dengan metode enzimatis heksokinase. Data dianalisis dengan uji Mann Whitney U dan uji T, signifikan jika  $p < 0,05$ .

**Hasil :** Kadar rerata glukosa plasma NaF setelah 8 jam penyimpanan pada suhu 2° - 8°C yaitu 87,73 mg/dL dan pada suhu ruangan 85,24 mg/dL. Rerata kadar glukosa serum setelah 8 jam penyimpanan pada suhu 2° - 8°C yaitu 87,78 mg/dL dan pada suhu ruangan 85,59 mg/dL. Terdapat perubahan signifikan ( $p < 0,05$ ) kadar glukosa plasma NaF setelah penyimpanan selama 1 sampai 6 jam di suhu 2° - 8°C dan suhu ruangan. Terdapat perubahan signifikan ( $p < 0,05$ ) kadar glukosa serum setelah penyimpanan selama 1 jam sampai 5 jam di suhu 2° - 8°C dan suhu ruangan.

**Simpulan :** Terdapat penurunan kadar glukosa plasma NaF yang disimpan pada suhu 2° - 8°C dan suhu ruangan. Terdapat penurunan kadar glukosa serum yang disimpan di suhu 2° - 8°C dan suhu ruangan.

# CHANGES OF PLASMA NaF AND SERUM GLUCOSE LEVELS OF STORAGE BETWEEN ROOM TEMPERATURE AND TEMPERATURE 2°-8°C

## ABSTRACT

**Background:** Glucose testing is often late because of the limited number of laboratories and reagents as well as a large number of examination requests. Glucose test results are often not in accordance with the clinical condition of the patient, one of the causes is the delay in the examination. Cooling the sample is recommended to maintain glucose level or reduce glycolysis. The purpose of this study was to determine changes in plasma NaF blood glucose levels and serum stored at room temperature and 2°-8°C.

**Method:** This study was an analytic study with a cross-sectional design of 37 volunteers who met the inclusion and exclusion criteria conducted at the Central Laboratory of RSUP.Dr.M. Djamil Padang from October 2018 to October 2019. Examination of plasma glucose levels of NaF and serum was carried out by the enzymatic method of hexokinase. Data were analyzed by Mann Whitney U test and T test, significant if  $p < 0.05$ .

**Results:** The mean plasma NaF glucose level after 8 hours of storage at a temperature of 2°- 8°C was 87.73 mg /dL and at room temperature 85.24 mg/dL. The mean serum glucose level after 8 hours of storage at a temperature of 2°- 8°C was 87.78 mg /dL and at room temperature 85.59 m /dL. There was a significant changes ( $p < 0.05$ ) plasma NaF glucose levels after storage for 1 to 6 hours at 2°- 8°C and room temperature. There was a significant changes ( $p < 0.05$ ) serum glucose levels after storage for 1 hour to 5 hours at 2°8°C and room temperature.

**Conclusion:** There is decrease plasma NaF glucose levels stored at 2°-8°C and room temperature. There is decrease serum glucose levels stored at 2°-8°C and room temperature.